

CLAIMS

1. A barbecue grill comprising:
 - a main housing having an interior space,
 - a cooking grate within the interior space for receiving food items to be cooked,
 - a primary heat source below the cooking grate for transmitting heat to food items located on the cooking grate,
 - a secondary housing structure within the interior space,
 - a secondary heat source below the secondary housing for transmitting heat to the secondary housing, and
 - a container for receiving wood pellets, said container being accessible from the exterior of the main housing and being positioned for delivering wood pellets to the secondary housing structure.
2. A barbecue grill according to claim 1, further comprising a hood above the main housing, said hood being movable with respect to the main housing such that in a first position the hood prevents access to the interior space and in a second position the hood allows access to the interior space.
3. A barbecue grill according to claim 2, wherein the hood is attached to the main housing through a hinging means allowing the hood to be pivoted between the first position and the second position.
4. A barbecue grill according to claim 1, wherein the primary heat source is a gas burner.
5. A barbecue grill according to claim 1, wherein the primary heat source is an electrical resistance heater.

6. A barbecue grill according to claim 1, further comprising a means for transferring wood pellets from the container to the secondary housing, whereby the wood pellets in the secondary housing can be heated by the secondary heat source to emit smoke.

7. A barbecue grill according to claim 6, wherein the secondary housing has a first side wall, an opposite second side wall and a top, and is mounted to a wall of the primary housing and comprises:

an inlet opening in the first side wall for receiving wood pellets from the container,

an outlet opening in the second side wall for discharging wood pellets from the secondary housing,

an interior channel acting as a path between the inlet opening and the outlet opening, and

a vent above the interior channel in the top, said vent for allowing the smoke from the wood pellets to escape from the secondary housing.

8. A barbecue grill according to claim 7, further comprising a searing bar between the cooking grate and the primary heat source for receiving drippings from food items on the cooking grate.

9. A barbecue grill according to claim 8, wherein the front wall extends from the approximate vertical level of the searing bar downward to a point below the searing bar, said front wall in combination with said searing bar acting as a baffle, dividing the interior space into two sections and preventing the transmission of smoke between said two sections.

10. A barbecue grill according to claim 7, further comprising a driving means for causing wood pellets to travel along the interior channel at such a rate that the

wood pellets absorb heat from the secondary heat source, causing the wood pellets to emit smoke.

11. A barbecue grill according to claim 10, wherein the driving means comprises an auger extending the length of the interior channel.

12. A barbecue grill according to claim 11, wherein the driving means further comprises a spring drive motor mounted outside the primary housing and provided with a handle for winding, the spring drive motor being coupled to the auger for rotating said auger.

13. A barbecue grill according to claim 12, comprising a latching means for -selectively preventing the spring drive motor from operating.

14. A barbecue grill according to claim 11, comprising an electric motor to rotate the auger.

15. A barbecue grill according to claim 10, wherein the driving means comprises a reciprocating plate extending the length of the interior channel and a mechanism for inducing vibration in said reciprocating plate.

16. A barbecue grill according to claim 15, wherein the reciprocating plate has an upper surface for receiving wood pellets from the inlet opening, the upper surface having a plurality of angled faces for assisting in inducing movement of the wood pellets from the inlet opening to the outlet opening.

17. A barbecue grill according to claim 1, wherein the secondary housing structure comprises:

an open bottom end for communicating with the container containing wood pellets for heating,

a vent for allowing smoke from the wood pellets to escape the secondary housing structure, and

a movable vane within the secondary housing structure, said movable vane extending from the bottom end to the vent, dividing the secondary housing structure into a first section and a second section.

18. A barbecue grill according to claim 17, wherein the vane is movable between a first limiting position, a neutral position, and a second limiting position such that when the vane is in the first limiting position, smoke from the wood pellets is predominately directed into the first section, when the vane is in the neutral position smoke from the wood pellets is substantially evenly directed into both the first and second sections and when the vane is in the second limiting position, smoke from the wood pellets is predominately directed into the second section.

19. A barbecue grill according to claim 18, wherein the position of the vane is manipulated by a control on the exterior of the main housing.